

it is impossible to draw up a definition which shall embrace the whole, without qualifying it with such terms as "generally," "more or less," "except," &c. Mr. Gray has overcome these difficulties by care and judgement, and has given us very full generalizations of generic characters, though these would have been more useful if the *diagnostic* portion of them were printed in a different type, or otherwise separated from the general mass. Another important feature in the work is the condensation of superfluous genera, which are daily manufactured by scores on trivial or imaginary characters, and which Mr. Gray has used a sound discretion in reducing within reasonable limits.

In regard to species, the author has only been able to give a full list of them under each genus, accompanied by their chief synonyms and references to the principal works where they are figured or described. To have annexed their specific characters would have extended the work fourfold and consumed years of valuable time. The localities might however have been mentioned with advantage, and the specific characters of the new species which are occasionally introduced ought to have been added. In other respects the student is guided at once to the best sources of information, while the rigid impartiality with which the rule of priority is enforced supplies him with a nomenclature which seems likely to be permanent.

In the illustrative plates the essential characters of every genus are admirably displayed, and in each subfamily a coloured plate of some new or unfigured species is introduced. This portion of the work is beautifully executed by Mr. Mitchell, who has entered fully into the spirit of that improved style of delineation first introduced into ornithology by Mr. and Mrs. Gould's unrivalled pencils. Mr. Mitchell has been the first to apply the art of *lithotint* to the illustration of zoological subjects, and in representing that wonderfully organized structure, the plumage of birds, we are inclined to prefer it to any other method, as attaining the happy medium between the hardness of line-engraving and the indistinctness of common lithography. Indeed in respect both of drawing and colouring, it would be scarcely possible to produce more perfect copies of nature than some of these plates exhibit. The only defect which we have noticed is the occasionally too abrupt transition of the leg into the body in some of the figures, that of *Esacus* and *Syrrhaptus* for instance.

It will be evident to the practical zoologist that this beautiful and elaborate work will tend greatly to advance our knowledge of ornithology, and that no public or private museum can be scientifically arranged without its aid.

*Descriptiones Animalium quæ in itinere ad Maris Australis terras per annos 1772-74 suscepto collegit J. R. Forster, nunc demum editæ curante H. Lichtenstein. Svo. Berlin, 1844. Pp. 424.*

Professor Lichtenstein has conferred a boon on literature and science by rescuing from oblivion these original observations of a profound and learned naturalist. John Reinhold Forster is well-known as the companion of Cook in his second voyage round the world, but by various mischances these memoranda of the valuable additions which he made to natural history have remained in MS. for *seventy*

years, and only obscure and imperfect notices of his zoological discoveries have hitherto seen the light. The drawings of animals made by his son George have met with nearly the same neglect as the text to which they refer; having remained unpublished to the present time in the archives of the British Museum. Schneider indeed, in his edition of Bloch's Fishes, introduced some of the materials of Forster's MSS., and Latham founded many of his species of birds on the specimens and drawings brought home by the two Forsters. The descriptions of Latham were however generally vague and insufficient, so that it is often difficult to determine the precise species or even genus to which they refer, and the exact descriptions and measurements now furnished us by this work of Forster's will therefore be of the utmost use in identifying many obscure species, especially those of the little-known islands of the Pacific. It is indeed much to be regretted that the work before us was not published at the time that it was written, as it would then have supplied the compilations of Gmelin and Latham with materials of the highest value, while Forster would have had the credit due to his labours, and the scientific names which he proposed would have been generally adopted. But by publishing the work at the present time, nearly all Forster's specific names have lost their right of priority and must take their rank as synonyms. Yet in spite of this inconvenience, the work comes "better late than never," it will remain a monument of Forster's accuracy of observation and high attainments as a naturalist; and though the majority of the animals described were previously known from other works, yet some, especially of the Invertebrata, appear to be now first described, while the most important additional light is thrown upon others.

This volume is in fact the *Zoological Appendix* to 'Cook's Second Voyage,' and is also a valuable accompaniment to the 'Observations made during a Voyage round the World,' which Forster published in 1778, and to the 'Journal of the Voyage' which his son edited. Some portions of it are in the form of a diary, narrating the events of the expedition, but the greater part is occupied with minute descriptions of the animals collected or observed. Professor Lichtenstein deserves great praise for the strictness with which he has adhered to Forster's text, and for his valuable notes on the synonymy of the species described. In the latter department he has been aided by Erichson, who has identified many of the insects described by Forster.

We may hope that this publication may draw attention to the drawings of the younger Forster, now in the British Museum. It is much to be wished that a selection of such of these drawings as are of the greatest interest to science were engraved and published. Their importance is shown by the fact that foreign zoologists have on several occasions made pilgrimages to London to inspect these designs, and have quoted them as the authorities on which specific distinctions have been founded. The first step towards this object would be to publish an exact catalogue of Forster's drawings, distinguishing under each design the name which has been given to the species by Schneider, Latham, Forster, and the modern zoologists respectively.